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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,758	07/08/2003	Christopher W. Gabrys	IG2257US	9896

7590 12/30/2005

J. Michael Neary
53939 Pine Grove Road
LaPine, OR 97739

EXAMINER

NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,758

Applicant(s)

GABRYS, CHRISTOPHER W.

Examiner

Tran N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 9-15, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 8 and 16-18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the *machine comprises a single magnetic airgap, as claimed in claim 11*, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

1. **Claims 1m 4, 6, and 9** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 4 and 9, the recitation of “whereby” is indefinite because it has been hold that the functional “whereby” statement does not define any structure and accordingly cannot serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

In claim 6, the recitation is indefinite because it is relating the operating and/or controlling the machine via applying current, rather than further reciting the structural limitations of the machine.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3, 4, 7, 9, 10, 14 and 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen (USP 5,081,388)** in view of **Kumada et al (USP 3,740,836)**.

Chen substantially discloses the claimed invention, particularly the rotor (4) having ferromagnetic portions and magnet (5) alternately arrange around the circumference thereof (fig 1), wherein the ferromagnetic rotor structure having co-roating refomagnetic portion of both sides of the stationary armature for conducting magnetic flux therebetween, and the orientation

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of the permanent magnet polarities (as shown in figs 3A-B) in radial direction, obviously the permanent magnet flux flows mostly axially and radially directions when the armature coil is not energized and when the field current has a polarity such that field current bucks the induced voltage therein. **Chen** substantially discloses the claimed invention, except for the *stationary armature coil is configured as aircore winding*.

Kumada, however, teaches that the armature coil is configured as aircore winding for the purpose of eliminating distributional unbalance as well as the magnetic unbalance, as well as reducing overall weight of the machine. Furthermore, electric rotary machines with armature aircore coils are well known in the art (see cited refs for evidence supporting this statement) because they reduce overall size and weight, as well as cost thereof.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the machine by configuring the stator with aircore coil, as taught by Kumada. Doing so would eliminate distributional unbalance as well as the magnetic unbalance thereof, as well as reduce overall weight of the machine.

Regarding claim 7, the machine is in the flywheel energy system, "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. In *Re Danly*, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In *Hewlett-packard Co. vs Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that "Apparatus claims cover what a device is, not what it does" (emphases in original). To emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original).

3. **Claims 4, 7, 9-10, 14 and 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Liang (USP 6,373,162)** in view of **Ueda et al (USP 4,677,335)**.

Liang substantially discloses the claimed invention, particularly the rotor comprising magnets (84-90) alternately positioned with the ferromagnetic portions (108, 110, 112, 114), wherein magnets 84, 86 are respectively and abuttingly engaged with magnets (88, 90) with the polarity arrangement that the south poles of magnets (88, 90) respectively abutting the north poles of magnets (84, 86). Therefore, the permanent magnet flux flows mostly axially and radially directions when the armature coil (38, 22) is not energized and when the field current has a polarity such that field current bucks the induced voltage therein. **Liang** substantially discloses the claimed invention, except for the *stationary armature coil is configured as aircore winding*.

Ueda, however, teaches that the armature coil is configured as aircore winding for the purpose of providing super-thin in thickness and super light in weight, as well as low in acoustic noise and fabrication cost.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the machine by configuring the stator with aircore coil, as taught by Ueda. Doing so would provide a stator with an armature coil that would be reduced overall in size, weight and cost of the machine.

Regarding claim 7, the machine is in the flywheel energy system, "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. In *Re Danly*, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In *Hewlett-packard Co. vs Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that "Apparatus claims cover what a device is, not what it does" (emphases in original). To

emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original).

4. **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen and Kumada**, or unpatentable over **Liang and Ueda**, as applied in the rejection against the base claims, and further in view of **Whiteley (US 3,922,574)**

One of the combinations of two refs listed above discloses the claimed invention, except for the added limitations of the machine is a single airgap instead of double airgaps.

Whiteley, however, teaches that an electrical machine can be designed as a single airgap (fig 1) or a double airgap (fig 5), such design is a matter of obvious engineering design choice based upon an appropriate industrial application of the machine.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the machine by configuring the machine as a single airgap configuration, as taught by **Whiteley**. Doing so would reduce the size of the machine and such design is obvious engineering design choice based upon an appropriate industrial application of the machine.

Regarding claims 12-13, it would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange so that the field coil is either supported by the rotor or by the aircore armature because it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Also, such rearranging part of an invention involves only skills in the art because one skilled in the art would have the necessary mechanical skill to make simple reversals of positions of mechanical parts without an express teaching in a reference (*In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)).

5. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen and Kumada**, or unpatentable over **Liang and Ueda**, as applied in the rejection against the base claims, and further in view of **Caamano (US 5731649)**

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One of the combinations of two refs listed above discloses the claimed invention, except for the added limitations of the rotor having alternating magnet poles.

Caamano, however, teaches that an electrical machine having a rotor with alternating magnet poles of north and south poles for the purpose of provide controllably interaction with the armature coil. Those skilled in the art would understand that rotor with alternate magnet poles are well known in the art.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the machine by arranging the rotor's magnet poles in alternating manner. Doing so would enable the controllably interaction therein with the stator's coils so that the machine would be more controllably operated.

Allowable Subject Matter

Claims 8, 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

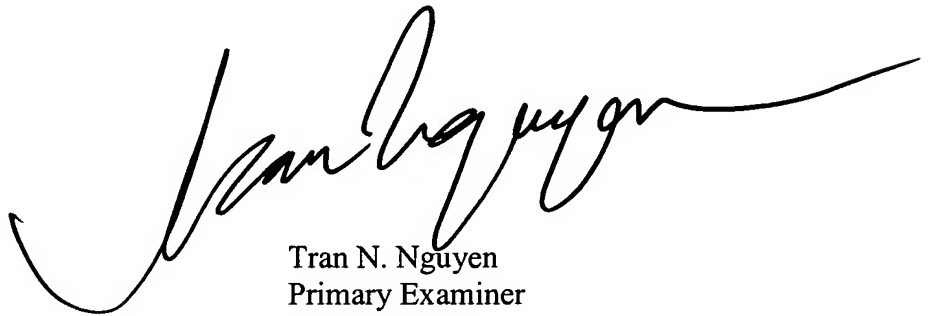
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tran N. Nguyen', with a long horizontal flourish extending to the right.

Tran N. Nguyen
Primary Examiner
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